

Missouri Department of Natural Resources



PUBLIC NOTICE

APPLICATION FOR MISSOURI STATE OPERATING PERMIT

DATE: July 28, 2006

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed effluent limitations and/or determinations are invited to submit them in writing to the Department of Natural Resources, Southwest Regional Office, Water Pollution Unit, 2040 W. Woodland, Springfield, Missouri 65807, ATTN: Cynthia S. Davies, Regional Director. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The department may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by August 27, 2006 or received in our office by 5:00 p.m. on August 30, 2006. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits, comments, and other information including copies of applicable regulations are available for inspection and copying at the department's website, <http://www.dnr.mo.gov/env/wpp/wpcp-pn.htm> or at the Department of Natural Resources, Southwest Regional Office, Water Pollution Unit, 2040 W. Woodland, Springfield, Missouri 65807, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: July 28, 2006

Permit Number: MO-0103128

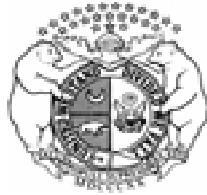
Southwest Regional Office

FACILITY NAME AND ADDRESS	NAME AND ADDRESS OF OWNER
Red Oak Resorts LLC 524 Recreation Row Camdenton, MO 65020	Mr. Gerald & Ms. Judy Reinhold 6527 Christopher Drive St. Louis, MO 63129
RECEIVING STREAM & LEGAL DESCRIPTION	TYPE OF DISCHARGE
Lake of the Ozarks SE¼, SE¼, Sec. 21, T39N, R17W Camden County	Domestic, reissuance/modification

For Ammonia as N

Total Ammonia as N monitoring is included to assess if there is reasonable potential for permit limits. For discharges to Lake of the Ozarks, the expected Missouri State Operating Permit (MSOP) limits for Total Ammonia as N are 12.1 mg/L maximum daily limit and 6.0 mg/L average monthly limit.

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended.

Permit No.

MO-0103 28

Owner:

Gerald & Judy Reinhold

Address:

6527 Christopher Drive, St. Louis, MO 63129

Continuing Authority:

Same as above

Address:

Same as above

Facility Name:

Red Oak Resorts, LLC WWTF

Facility Address:

524 Recreation Row, Camdenton, MO 65020

Legal Description:

SE $\frac{1}{4}$, SE $\frac{1}{4}$, Sec. 21, T39N, R17W, Camden County

Receiving Stream:

Lake of the Ozarks (L2) 303(d)

First Classified Stream and ID:

Lake of the Ozarks (L2) (07205) 303(d)

USGS Basin & Sub-watershed No.:

(10290109-080001)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - Resort / Sewerage Works - SIC #7999 / 4952

Flow equalization / extended aeration / secondary clarification / chlorination / aerated sludge holding / sludge disposal by contract hauler.

Design organic population equivalent is 667.

Design average daily flow is 49,063 gallons per day.

Design sludge production is 12.0 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

Effective Date

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

Expiration Date
MO 780-0041 (10-93)

Cynthia S. Davies, Regional Director, Southwest Regional Office

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 2 of 6	
					PERMIT NUMBER MO-0103128	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	GPD	*		*	once/month**	24 hr. total
Biochemical Oxygen Demand ₅	mg/L	40		20	once/month**	***
Total Suspended Solids	mg/L	40		20	once/month**	***
pH – Units	SU	***		***	once/month**	grab
Fecal Coliform (Note 1)	#/100 ml	1000		400 (Note 2)	once/month**	grab
Total Residual Chlorine as Cl ₂	mg/L	0.019 (Note 3) (0.13 ML)		0.0095 (Note 3) (0.13 ML)	once/month**	grab
Ammonia as N	mg/L	12.1		6.0	once/month**	grab
Dissolved Oxygen (Note 4)	mg/L	5.0		6.3	once/month**	grab
Oil & Grease	mg/L	15		10	once/month**	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Reports shall be submitted by the 28th day of the month following the reporting period, e.g. Reporting period is the month of March (samples collected monthly), report due by April 28th.
- *** A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample. A person may physically collect the four grab samples or a composite sampler may be set up to collect the four grab samples.
- **** pH is measured in pH units and is not to be averaged. The pH for all facilities except lagoons is limited to the range of 6.0-9.0 pH units.

Note 1 - Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.

Note 2 - Monthly average limit for Fecal Coliform is expressed as a geometric mean. Geometric mean for

$$n \text{ samples} = [a_1 \times a_2 \times a_3 \dots \times a_n]^{1/n}$$

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 3 - This permit contains a Total Residual Chlorine (TRC) limit.

- (a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.
- (b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, ~~do not chlorinate in those months.~~
- (c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit.**
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

Note 4 - The Dissolved Oxygen limits are the minimums. The facility shall not go below the set limits.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri’s Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri’s list of waters of the state not fully achieving the state’s water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);

C. SPECIAL CONDITIONS (continued)

- (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
5. Report as no-discharge when a discharge does not occur during the report period.
6. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
 - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
 - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

D. SCHEDULE OF COMPLIANCE

Please note that the engineering design includes technology not addressed in Missouri Clean Water Commission Regulations 10 CSR 20-Chapter 8 design standards. To assess the effectiveness of the new technology at this facility, the following schedule of compliance must be followed.

1. The permittee acting under the supervision of a professional engineer registered in Missouri shall at a minimum, collect and test samples of wastewater treatment facility effluent as outlined in this permit, measure flow as outlined in this permit, and shall record all maintenance and operational problems experienced with the wastewater treatment facility during the first 34 months of operation. Other sample collection and testing including influent samples, and samples before and after each unit operation or group of unit operations, and other record keeping shall be done at the discretion of the professional engineer as needed to assess the new technology.
2. Within one (1) year of the date of issuance of this permit, the permittee shall submit a preliminary engineering report prepared by the professional engineer to the Southwest Regional Office evaluating the new technology for the first ten (10) months of operation. At the minimum, this evaluation shall include:
 - (a) Calculation of the mean (average) test results for all wastewater treatment facility effluent sample results collected under this permit for all parameters that have a maximum average monthly permit limit except pH.
 - (b) Calculation of the standard deviation of all test results noted above based on the following:

$$\text{Standard deviation} = \left[\frac{(R_1 - \text{mean})^2 + (R_2 - \text{mean})^2 + (R_3 - \text{mean})^2 + \dots + (R_n - \text{mean})^2}{n - 1} \right]^{1/2}$$

where R_1, R_2, R_3 , etc. are the individual sample results
 n is the total number of samples

- (c) Calculation of the Coefficient of Variation (cv) for all test results noted above based on the following:

$$cv = \left[\frac{\text{Standard Deviation}}{\text{Mean}} \right]$$

- (d) Calculation of the Standard Deviation of Logarithms (σ) for all test results noted above based on the following:

$$\sigma = \left[\ln \left[\frac{cv^2 + 1}{4} \right] \right]^{1/2}$$

where \ln is the natural logarithm to base e
 e is 2.718281828

- (e) Calculation of the Performance Standard (P) for 95th percentile probability for all test results noted above based on the following:

$$P = (\text{mean})e^{(z\sigma - 0.5\sigma^2)}$$

where z is 1.645 for 95 percentile probability

- (f) The new technology will be deemed successful if the performance standard for 95th percentile probability is less than or equal to the permit maximum monthly average limit for each parameter.
 - (g) The preliminary engineering report shall also assess any operational or maintenance problems experienced during the initial ten (10) months of operation and shall describe all measures taken to overcome these problems. The engineer shall provide an assessment of whether operation or maintenance problems are sufficiently serious to require replacement of the new technology.

D. SCHEDULE OF COMPLIANCE (continued)

3. Within three (3) years of the date of issuance of this permit, the permittee shall submit a final engineering report prepared by the professional engineer to the Southwest Regional Office evaluating the new technology for the first 34 months of operation including all of the items described in the initial ten (10) month evaluation. Again, the new technology will be deemed successful if the performance standard for 95th percentile probability is less than or equal to the permit maximum monthly average limit for each parameter.
4. If the new technology fails to meet the 95th percentile probability performance standard for any parameter, or if the engineer assesses the operation and maintenance problems to be sufficiently serious to require replacement of the new technology, the permittee shall submit engineering report, plans, specifications prepared by a professional engineer registered in Missouri along with construction permit application forms, filing fee to Southwest Regional Office within one hundred twenty (120) calendar days of the date of submittal of the preliminary or final engineering report evaluation that identified the failure.

These documents shall outline replacement of the failed new technology with standard technology listed in Missouri Clean Water Commission Regulation 10 CSR 20-Chapter 8.

5. Within one hundred eighty (180) calendar days of receiving the construction permit, the permittee shall construct the replacement facilities and submit the Statement of Work Complete prepared by the professional engineer to Southwest Regional Office.

DRAFT



Missouri Department of Natural Resources
Water Protection Program
Water Pollution Control Branch
NPDES Permits and Engineering Section

Water Quality Review Sheet

Determination of Effluent Limits

Facility Information

FACILITY NAME: Red Oak Resorts LLC

NPDES #: MO-0103128

FACILITY TYPE/DESCRIPTION: Facility modification: Flow equalization / extended aeration / secondary clarification / chlorination / aerated sludge holding / sludge disposal by contract hauler.

ECOREGION: Ozark / Osage Drainage 8- DIGIT HUC: 10290109 COUNTY: Camden

Central Irregular Plains Interior River Valleys and Hills Ozark Highlands
Mississippi Alluvial & Loess Plains Western Corn Belt Plains

LEGAL DESCRIPTION: SE¼, SE¼, Sec. 21, T39N,
R17W, Camden County

LATITUDE/LONGITUDE: UTM's: X: 518210.582
Y: 4217053.1072

WATER QUALITY HISTORY: Fecal coliform exceedence in September 2004, June 2004, & August 2003. Total
Suspended solid exceedence in June 2004,

Outfall Characteristics

OUTFALL	DESIGN FLOW (CFS)	TREATMENT TYPE	RECEIVING WATERBODY	OTHER
001	0.0759	Secondary	Lake of the Ozarks	None

Receiving Waterbody Information

WATERBODY	CLASS	7Q10(CFS)	*DESIGNATED USES	OTHER CHARACTERISTICS
Lake of the Ozarks	L2	450	LWW, AQL, WBC, BTG	Gaining setting / 303 (d) WBID 7205

*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warm water Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

COMMENTS: None.

MIXING CONSIDERATIONS

Mixing Zone (MZ): Not to exceed one-quarter (1/4) of the lake width at the discharge point or one hundred feet (100') from the discharge point, whichever is less. 10 CSR 20-7.031 (4) (A) 5. B. (IV) (a). Therefore, MZ = 100 feet.

Zone of Initial Dilution (ZID): MCWC Regulations 10 CSR20-7.031(4)(A)5.B.(IV)(b) states no initial zone of dilution is allowed. This means WWTF discharge at a minimum must meet acute water quality criteria for aquatic life protection-general warm water fishery at the end of pipe.

Permit Limits and Information

TMDL WATERSHED: ☐ N ☐ W.L.A. STUDY CONDUCTED: ☐ N ☐ DISINFECTION REQUIRED: ☐ Y ☐ USE ATTAINABILITY ANALYSIS: ☐ N ☐

OUTFALL# 001

WET TEST (Y OR N): ☐ N ☐ FREQUENCY: N/A A.E.C. N/A LIMIT: N/A

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MONITORING FREQUENCY
FLOW	MONITOR		MONITOR	monthly
BOD ₅ (MG/L)	40		20	monthly
TSS (MG/L)	40		20	monthly
PH (S.U.)	6-9		6-9	
AMMONIA AS N (MG/L)	12.1		6.0	MONTHLY
FECAL COLIFORM (COLONIES/100 ML)	1000		400	MONTHLY
TOTAL RESIDUAL CHLORINE (MG/L)	0.019 0.13 ML		0.0095 0.13 ML	MONTHLY
DISSOLVED OXYGEN (MINIMUMS)	5.0		6.3	MONTHLY
OIL & GREASE	15		10	MONTHLY

Please report the date, time, and location for each parameter sampled along with the average daily flow (actual flow measured or estimated, not design flow). All the parameters should be sampled on the same day and within no more than a 2-hour period. Dissolved oxygen (DO) measurements are to be taken during the period from one hour prior to sunrise to one and one-half hour after sunrise. If discharge is contingent to storm events, rainfall should be measured every time there is a discharge.

Derivation and Discussion of Limits

Wasteload allocations (WLA) were calculated using water quality criteria and the dilution equation below:

$$C = \frac{(C_s * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

C_s = upstream concentration

Q_s = upstream flow (cfs)

C_e = effluent concentration

Q_e = effluent flow (cfs)

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable acute water quality criteria (CMC: criteria maximum concentration) and stream volume of flow.

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Biochemical Oxygen Demand (BOD₅) Lake limits apply – 20 mg/L monthly average (10 CSR 20-7.015(3)(B)1). Daily limits calculated by $(20 \times 3.114) / 1.5524 = 40$ mg/L daily maximum.

Total Suspended Solids (TSS) Lake limits apply – 20 mg/L monthly average (10 CSR 20-7.015(3)(B)1). Daily limits calculated by $(20 \times 3.114) / 1.5524 = 40$ mg/L daily maximum. 10 CSR 20-7.015(3)(B)1

PH: shall be maintained in the range from six to nine (6-9) standard units (10 CSR 20-7.015(3)(B)2).

Ammonia as Nitrogen. Total Ammonia Nitrogen – Early Life Stages Present criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B.] No. 9, Page 847].

Chronic Ammonia as Nitrogen calculations are based on the volume of flow in the Mixing Zone or the 30Q10, whichever is less. Acute Ammonia as Nitrogen calculations are based on the volume of flow in the Zone of Initial Dilution or the 1Q10, whichever is less.

Acute criteria was only reviewed because there is no zone of initial dilution, therefore the flow is zero (0). Chronic is based on either the mixing zone or 30Q10, which both flows are fairly large.

Acute at pH of 7.8 =
 $WLA_a = 12.1$ mg/L

$LTA_a = 12.1 (0.321) = 3.9$ mg/L

[CV = 0.6, 99th Percentile]

MDL = $3.9(3.114) = 12.1$ mg/L

[CV = 0.6, 99th Percentile]

AML = $3.9(1.5524) = 6.04$ mg/L

[CV = 0.6, 95th Percentile, n = 30]

Fecal Coliform: Lake limits apply – 400 #/100mL monthly average and 1,000 #/100 mL (10 CSR 20-7.015(3)(B)(3)).

Dissolved Oxygen: Oxygen Saturation 660' msl, 0.230 g/L chloride, 28°C = 7.6293

Minimum Daily Limit = 5.0 mg/L from CSR 20-7 Table A

$C^* - C \text{ MDL} = 7.6293 - 5.0 = 2.6293$

$C^* - C \text{ LTAc} = 2.6293 / 3.114 = 0.8443$

$C^* - C \text{ AML} = (0.8443)(1.5524) = 1.3107$

$AML \ C = 7.6293 - 1.3107 = 6.3186$ or 6.3

MDL = 5.0 mg/L

AML = 6.3 mg/L

Oil & Grease

As per 10 CSR 20-7.031 – Table A. the in-stream chronic Oil and Grease limit is 10 mg/L, and since oil and grease do not mix with water, the result is the elimination of dilution as a means to comply with in-stream water quality standards.

Daily Maximum = 15 mg/L

Monthly Average = 10 mg/L

Reviewer: Kristen Pattinson

Unite Chief: Gale Roberts, P.E.

Date: July 18, 2006

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data are available that may affect the recommended monitoring and effluent limits, please forward these data to the author.